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Momiyama et al.

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(54) **SURVEYING SYSTEM**

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This patent is subject to a terminal disclaimer.

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(57) **ABSTRACT**

A controller (**26**) of a surveying instrument including a GPS receiver (**28**) and a transmitter and receiver section (**24**) for communicating with a prism device including a GPS receiver (**58**), an atmospheric pressure sensor (**60**), a temperature sensor (**32**), and a transmitter and receiver section (**54**) for communicating with the surveying instrument calculates an azimuth angle of the prism device when viewed from the surveying instrument and a distance therebetween from positions of the prism device and surveying instrument obtained from the GPS receivers, further calculates an elevation angle of the prism device when viewed from the surveying instrument from the distance and atmospheric pressures at the positions of the prism device and surveying instrument, and issues a rotation command to a horizontal drive section (**16**) and a vertical drive section (**18**), so that a collimating telescope can be immediately and automatically directed toward a reflecting prism for measurement.

4 Claims, 6 Drawing Sheets